

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. TA-00496

In re Application of: **Slade H. Gardner**

Examiner:

Serial No.: **TBA**

Art Unit:

Filed: **Herewith**

For: **Method of Forming Ecoceramic-Based Silicon-Carbide Tooling for Composites and  
Method for Forming Composites Using Same**

**PRELIMINARY AMENDMENT**

BOX: NO FEE AMENDMENT  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir or Madam:

Please amend the subject application as follows:

*"EXPRESS MAIL" NO. EL 871043624 US*

I hereby certify that this paper or fee is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated below and is addressed to the Hon. Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Date of Deposit:

*Jan. 11, 2002*

By:

*Sarah Gardner*

### **In the Specification**

Please replace paragraph [0031] with the following:

[0031] To prevent composite components formed on tool 21 from adhering to upper surface 13 and mold details such as recess 15, a mold release, or mold sealant, is applied to upper surface 13, as shown in FIG. 8. Mold release may be a wax or other form of release that coats surface 13 to limit the difficulty of removal of a composite component after the resin in the component is cured.

Please replace paragraph [0032] with the following:

[0032] FIG. 9 shows a composite component 37 being formed on tool 21. Component 37 is formed from composite materials, typically multiple layers of woven fabric, though other types of fiber layers may be used, for example, fiber mats having short fibers in random orientations. The layers are preferably impregnated with an uncured resin prior to layup, but resin may be brushed on or otherwise applied to dry layers after each layer is placed on tool 21. Layers of component 37 are laid on surface 13, conforming to the contours of recess 15. A debulking process may be performed during layup to remove excess resin and to compact the layers. After the desired number of layers is applied, component 37 is cured while remaining on tool 21, curing typically occurring within an autoclave or other type of oven. Component 37 is then removed from tool 21.

### Remarks

In the specification, paragraph [0031] is amended to correctly refer to Figure 8, and paragraph [0032] is amended to correctly refer to Figure 9. Marked-up versions of the paragraphs are attached.

Parameter	Value	Parameter	Value
$\alpha$	0.001	$\beta$	0.001
$\gamma$	0.001	$\delta$	0.001
$\epsilon$	0.001	$\zeta$	0.001
$\eta$	0.001	$\theta$	0.001
$\iota$	0.001	$\kappa$	0.001
$\lambda$	0.001	$\mu$	0.001
$\nu$	0.001	$\xi$	0.001
$\omicron$	0.001	$\pi$	0.001
$\rho$	0.001	$\sigma$	0.001
$\tau$	0.001	$\upsilon$	0.001
$\phi$	0.001	$\chi$	0.001
$\psi$	0.001	$\omega$	0.001
$\Omega$	0.001	$\Theta$	0.001
$\Phi$	0.001	$\Psi$	0.001
$\Upsilon$	0.001	$\Xi$	0.001
$\Gamma$	0.001	$\Lambda$	0.001
$\Sigma$	0.001	$\Pi$	0.001
$\Theta$	0.001	$\Upsilon$	0.001
$\Phi$	0.001	$\Xi$	0.001
$\Psi$	0.001	$\Omega$	0.001
$\Upsilon$	0.001	$\Gamma$	0.001
$\Xi$	0.001	$\Sigma$	0.001
$\Omega$	0.001	$\Theta$	0.001
$\Gamma$	0.001	$\Phi$	0.001
$\Sigma$	0.001	$\Psi$	0.001
$\Theta$	0.001	$\Upsilon$	0.001
$\Phi$	0.001	$\Xi$	0.001
$\Psi$	0.001	$\Omega$	0.001
$\Upsilon$	0.001	$\Gamma$	0.001
$\Xi$	0.001	$\Sigma$	0.001
$\Omega$	0.001	$\Theta$	0.001
$\Gamma$	0.001	$\Phi$	0.001
$\Sigma$	0.001	$\Psi$	0.001
$\Theta$	0.001	$\Upsilon$	0.001
$\Phi$	0.001	$\Xi$	0.001
$\Psi$	0.001	$\Omega$	0.001
$\Upsilon$	0.001	$\Gamma$	0.001
$\Xi$	0.001	$\Sigma$	0.001
$\Omega$	0.001	$\Theta$	0.001
$\Gamma$	0.001	$\Phi$	0.001
$\Sigma$	0.001	$\Psi$	0.001
$\Theta$	0.001	$\Upsilon$	0.001
$\Phi$	0.001	$\Xi$	0.001
$\Psi$	0.001	$\Omega$	0.001
$\Upsilon$	0.001	$\Gamma$	0.001
$\Xi$	0.001	$\Sigma$	0.001
$\Omega$	0.001	$\Theta$	0.001
$\Gamma$	0.001	$\Phi$	0.001
$\Sigma$	0.001	$\Psi$	0.001
$\Theta$	0.001	$\Upsilon$	0.001
$\Phi$	0.001	$\Xi$	0.001
$\Psi$	0.001	$\Omega$	0.001
$\Upsilon$	0.001	$\Gamma$	0.001
$\Xi$	0.001	$\Sigma$	0.001
$\Omega$	0.001	$\Theta$	0.001
$\Gamma$	0.001	$\Phi$	0.001
$\Sigma$	0.001	$\Psi$	0.001
$\Theta$	0.001	$\Upsilon$	0.001
$\Phi$	0.001	$\Xi$	0.001
$\Psi$	0.001	$\Omega$	0.001
$\Upsilon$	0.001	$\Gamma$	0.001
$\Xi$	0.001	$\Sigma$	0.001
$\Omega$	0.001	$\Theta$	0.001
$\Gamma$	0.001	$\Phi$	0.001
$\Sigma$	0.001	$\Psi$	0.001
$\Theta$	0.001	$\Upsilon$	0.001
$\Phi$	0.001	$\Xi$	0.001
$\Psi$	0.001	$\Omega$	0.001
$\Upsilon$	0.001	$\Gamma$	0.001
$\Xi$	0.001	$\Sigma$	0.001
$\Omega$	0.001	$\Theta$	0.001
$\Gamma$	0.001	$\Phi$	0.001
$\Sigma$	0.001	$\Psi$	0.001
$\Theta$	0.001	$\Upsilon$	0.001
$\Phi$	0.001	$\Xi$	0.001
$\Psi$	0.001	$\Omega$	0.001
$\Upsilon$	0.001	$\Gamma$	0.001
$\Xi$	0.001	$\Sigma$	0.001
$\Omega$	0.001	$\Theta$	0.001

## Version with Markings to Show Changes Made


[0031] To prevent composite components formed on tool 21 from adhering to upper surface 13 and mold details such as recess 15, a mold release, or mold sealant, is applied to upper surface 13, as shown in FIG. [7] 8. Mold release may be a wax or other form of release that coats surface 13 to limit the difficulty of removal of a composite component after the resin in the component is cured.

[0032] FIG. [8] 9 shows a composite component 37 being formed on tool 21. Component 37 is formed from composite materials, typically multiple layers of woven fabric, though other types of fiber layers may be used, for example, fiber mats having short fibers in random orientations. The layers are preferably impregnated with an uncured resin prior to layup, but resin may be brushed on or otherwise applied to dry layers after each layer is placed on tool 21. Layers of component 37 are laid on surface 13, conforming to the contours of recess 15. A debulking process may be performed during layup to remove excess resin and to compact the layers. After the desired number of layers is applied, component 37 is cured while remaining on tool 21, curing typically occurring within an autoclave or other type of oven. Component 37 is then removed from tool 21.

Please charge any additional required payment of fees for prosecution of the above-identified application to Deposit Account No. 50-0259.

Respectfully submitted,

Date: 1/11/02

  
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